



*Date of Application, 18th Feb., 1896—Accepted, 11th Apr., 1896*

COMPLETE SPECIFICATION.

An Improved Means for Connecting and Disconnecting Parts of  
Braces, Suspenders, and the like.

We, CHARLES ROBERT HARRIS and WILLIAM FREEMAN both of Williamsport in the County of Lycoming and State of Pennsylvania, United States of America Manufacturers, do hereby declare the nature of this invention, and in what manner the same is to be performed, to be particularly described and ascertained in and  
5 by the following statement:—

Our invention relates to improvements in braces, suspenders, or the like and more particularly to connectors termed cast-offs therefor and it consists in certain novel features of construction and combinations of parts which will be hereinafter described and pointed out in the claims.

10 In the accompanying drawings,

Figure 1 is a view of one form of cast off applied in position and connecting the parts of a trouser suspender together.

Figure 2 is a detached view of the cast-off.

15 Figure 3 is a detached view showing a slight modification in one of the longitudinal bars of the cast-off.

Figure 4 is a view in perspective of another form of cast-off, and

Figures 5 and 6 show two different methods of effecting a connection between the cast off and the button straps or tabs.

20 In Figures 1, 2 and 3 A and A<sup>1</sup> represent the two longitudinal bars of the cast off. These are connected together permanently at one end by the end bar 1 and at the other end by end bar 2 which has a hook 3 on its free end adapted to receive the other longitudinal bar removably therein. The parts B and C of the trouser suspender are held together by the cast-off, one of the parts folding over bar A and the other over bar A<sup>1</sup> and the edges of the parts B and C are confined between  
25 the two end bars 1 and 2.

Outside of the bar 2 the enlargements 4 and 5 are formed in position to be received and pinched or compressed between the thumb and forefinger to open or close the cast off as the case may be.

30 To broaden out the bearing of the lower bar A<sup>1</sup> it is bent laterally as in Figures 1 and 2 or it may have two bends as at 6, 6, in Figure 3, the object of these lateral extensions being in each instance to hold the cast-off against turning in the part C, as this is quite desirable as it always insures an upright position of the cast-off.

35 In Figures 4, 5 and 6 a slight change is made in the form of cast-off. In this construction the wire or other material constituting the longitudinal bars are both bent inward toward each other as at 8 and 9 to constitute a confining end bar as at 2 in Figures 1, 2 and 3 between which and end bar 1 the web is confined. These bends forming the end bar overlap each other when in their normal position.

40 After these bends 8 and 9 the wire is bent outwardly and the hooks 10 and 11 are formed at the extreme ends thereof respectively, whereby to fasten the ends of the cast-off together.

In Figures 5 and 6 we have shown two different forms of connection between the cast-off and the button straps or tabs. In both instances the lower longitudinal bar is off-set at the center 12 for about half its length and then kinked at or near  
45 the center as at 13 to form an extended lateral bearing and around these parts 12 and 13 a sheet metal clip 14 is folded, either as in Figure 5 or 6 and flattened, so

*Harris and Freeman's Means for Connecting and Disconnecting Parts of Braces, &c.*

as to form a perfectly rigid connection between the cast-off and plate to prevent one turning with respect to the other.

Having now particularly described and ascertained the nature of our said invention, and in what manner the same is to be performed, we declare that what we claim is :

1st. As an article of manufacture, a cast off comprising two longitudinal bars and end bars for confining the web held by the cast off between them, a projection or finger piece connected with each longitudinal bar at a point outside of or beyond the adjacent edge of the web, and a hook for detachably holding these bars together.

2nd. As an article of manufacture, a cast-off comprising a wire bent to form two longitudinal wires, an end bar, a pair of inward bends constituting another end bar then bent outward to form finger projections and terminating in hooks for fastening the longitudinal bars detachably together, substantially as set forth.

3rd. As an article of manufacture, a cast-off for suspenders comprising a pair of longitudinal bars, ends, thumb pieces on the free ends of the longitudinal bars, one of the longitudinal bars bent laterally and a metal plate rigidly secured around this laterally bent portion whereby neither part can rock or move independently of the other, substantially as set forth.

4th. As an article of manufacture, a cast-off for suspenders comprising a pair of longitudinal bars and ends, the former having finger pieces thereon, one of these longitudinal bars bent laterally or depressed, and a clasp comprising a plate folded around the laterally bent or depressed portion of the longitudinal bar, said plate substantially filling the laterally bent or depressed portion with its outer fold or edge approximately flush with the adjacent portions of the bar, substantially as set forth.

5th. As an article of manufacture, a cast-off comprising two longitudinal bars, and two end bars for connecting these longitudinal bars and confining the web held by the cast-off between them, a finger piece formed on each of these longitudinal bars at a point outside of or beyond the adjacent end bar and a hook for detachably holding these bars together, substantially as set forth.

Dated this 18th day of February 1896.

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